

REMARKS

Reconsideration and removal of the grounds for rejection are respectfully requested.

Claims 1-7 were in the application, claims 1, and 3-5 have been amended, new claims 8-10 have been added.

Claim 1 has been amended to include substantially the limitations of claim 2 therein. Further amendments were made to clarify the steps followed in manufacturing the stiffened tubular filter element of the invention. Claim 1 now is clear that the filter element is first assembled and then multiple liquid lines are applied to the filter element, (rather than the less precise liquid mass) comprised of rings and connecting lines which form a lattice, the stiffening of these lines when the liquid hardens forming a physical structure, that is, a stiffening net. This completes the manufacture of the stiffened tubular filter element according to the inventive method..

Claims 3-5 have been amended to correct the claim dependency and for consistency with amended claim 1. New claims 8-10 further limit claim 1 as to the placement of the stiffening net on the outside, inside or on both surfaces of the tubular filter element.

No new matter is involved in this amendment.

Claims 1, 3, 4 and 7 were rejected as being obvious over Poulsen DK 17840 in view of Kahler, U.S. Patent no. 5,868,889.

Claim 5/1 was rejected as being obvious over Poulsen, Kahler, Spencer and Adams.

By this amendment, combining the limitations of claims 1 and 2, each of these rejections has been rendered moot.

Claims 2-4 (now claims 1, 3 and 4) were rejected as being obvious over Poulsen and Kahler, and further in view of Lippold, U.S. Patent no. 5,066,319 and Spencer, 5,753,071.

The Examiner acknowledged that Poulsen does not disclose a liquid mass applied by one or more nozzles, the nozzles being movable relative to the filter element. In fact, no such nozzles are required by Poulsen, as it is quite clear that Poulsen requires placing a pre-fabricated net on the filter element.(See para. 0003).

The Examiner's reference to the adhesive does not lead one to the applicants invention, rather, it teaches away from the invention.

The Examiner fails to distinguish from adhesive applied to hold parts together, and the in-situ formation of a hard net which provides a stiffened tubular filter element. Merely because glue is described as possibly adding some stiffness does not lead one to the applicants invention, as Poulsen is clear that a separate stiffening structure is the main support, regardless of what the glue may add, and there is nothing to suggest the prefabricated net could be eliminated, or that a stiffened filter element could be made with no glue, instead having an in-situ formed net.

Kahler is also distinguishable from the applicants' invention. While two nozzles 6a and 6b are shown which may be movable, these are movable relative to a flat sheet, not to a tubular filter assembly. The applied material does no more than glue a flat sheet to a folded sheet, and this is thus placed intermediate the two components, not on an inner side or an outer side of a filter assembly. Also, no lattice structure can possibly be made according to Kahler. Thus these two patents do not teach, suggest or predictably lead one to the in-situ production of a stiffening net made from a hardenable liquid dispensed in rings and connecting lines, as occurs in accordance with the present invention.

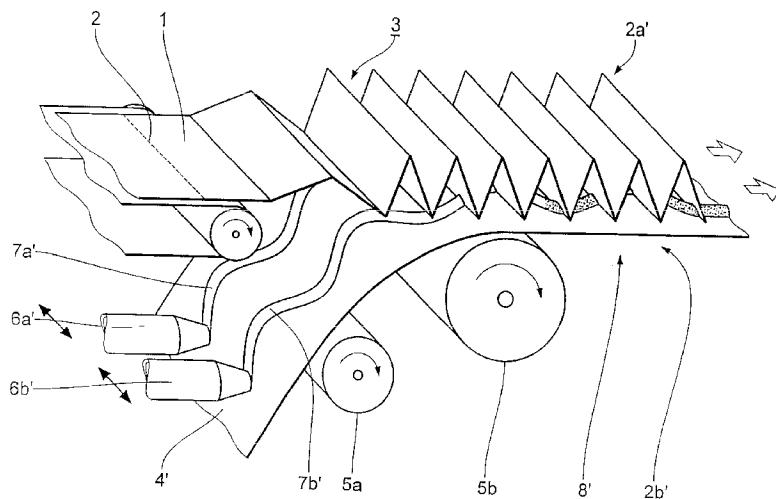


Fig. 1b

The Examiner considers it somehow obvious that while each of these discusses an adhesive, that is the same as creating a distinct stiffening net. Where is there anything which would predictably lead one to the applicants' invention? The Examiner relies on pure speculation in the obviousness analysis. Only by taking the applicants' success in creating the stiffened tubular assembly and then looking back using hindsight can one call the applicants' invention obvious, and this is a clear case of impermissible hindsight.

In conducting an obviousness analysis, "[a] fact finder should be aware . . . of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning." KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1742, 167 L. Ed. 2d 705 (2007). This is because the genius of invention is often a combination of known elements that in hindsight seems preordained. In re Omeprazole Patent Litig., No. MDL 1291, 490 F. Supp. 2d 381, 2007 U.S. Dist. LEXIS 39670, at 400-01 (S.D.N.Y. May 31, 2007) (citation omitted) (quoting KSR, 127 S.Ct. at 1742); see also Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138 (Fed. Cir. 1985), Raytheon Co. v. Roper Corp., 724 F.2d 951, 961 (Fed. Cir. 1983) (stating that "virtually every claimed invention is a combination of old elements").

The Court in KSR also wrote, "[r]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741, 167 L. Ed. 2d 705 (2007) ("To facilitate review, this analysis should be made explicit.") (citing Kahn, 441 F.3d at 988... "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)).

In this case, the reasoning supporting the rejection is faulty. Neither reference uses a hardenable liquid material which itself forms a stiffening net, nor would it be

predictable, based on these two patents, that one could in fact produce a stiffening net as is done by the applicant. Poulsen uses a prefabricated net; Kahler uses a flat sheet and other structures for producing a filter element. Neither patent suggests to one skilled in the art the actual forming, *in situ*, of a stiffening net, as is done in the applicants invention.

Nothing within either of the cited patents would lead one to produce a stiffening net from a hardenable liquid as is provided according to the applicants invention, and claim 1 and the claims depending therefrom are not rendered obvious thereby.

Poulsen applies a pre-manufactured net to a filter element, using a hot melt adhesive to hold the net in place, much as the flat sheet is applied in Kahler, and held by the adhesive. The combination at best may lead one to use a net in place of the sheet, as both are used to stiffen and both are glued to a filter insert. There is nothing to lead one to avoid entirely the flat sheet as well as the pre-manufactured net, and to instead, form a net in place from a hardenable liquid material, as is done according to the applicants' invention.

Spencer only discloses stationary adhesive dispensers used to fill various notches. It does not appear that multiple rotations are completed, as once the notch is filled, any additional adhesive dispensed would run out of the notch. No net could or would be formed following Spencer. As the nozzles are fixed in place during operation, having only manually adjustable "goose-neck" supports, no oscillations are possible with the apparatus of Spencer, as required by claim 1.

It is difficult to determine how one would combine the teachings as well as the apparatus of Spencer with Kahler. Kahler applies an adhesive to a sheet which is mated with a folded material, and so no notches are provided. Kahler is essence is directed to creating what would be considered the "intermediate assembly" combining a first medium 34 with a second medium 36 whereas Spencer is directed to bonding end flanges to the intermediate assembly by proving a notch between the two and filling the notch with adhesive. Oscillations would not be appropriate for filling such notches, and

as the two steps of the filter manufacture are distinct, one skilled in the art would not be lead to the result proposed according to the examiner. Nor is there even anything to propose moreover the provision of a stiffening net placed over the intermediate assembly. Consequently, the combination would not predictably lead one to the applicants invention.

Lippold is also readily distinguishable. In Lippold, as with the other cited patents, an adhesive is used to join two parts together, that is, to bond the offsets to each other. (See Fig. 5) As is described, the contact region of the offsets 30 is rectangular in Fig. 1a, and "The application of adhesive makes just these areas more rigid..." (col. 4, l. 57-68). See also col. 6, l. 15-17 "The self-hardening layer of adhesive coating 38 is applied to the offsets 30 and their side faces 300 by these rolls." Clearly, Lippold does not disclose, teach or suggest the dispensing of a hardenable liquid in lines, that combine rings and crossing lines in a lattice, and the combination of Poulsen, Kahler, Spencer and Lippold does not even remotely lead one to the applicants' invention.

As to the "net-like or spun" reference, this was only disclosed relative to "the adhesive material ..placed on the offsets 30" as a way to avoid "total closure of the surface area of the filter material 10..." so that the filter characteristics "are only slightly impaired..." (col. 7, l. 57-63) This does not require or even suggest the lines of the applicants' invention.

Consequently, claim 1 is not obvious, as no stiffening net is created. Lippold relies on the formed offsets to stiffen the filter, with these bonded together by adhesive, possibly discontinuous rather than in a layer.

One skilled in the art reviewing all four references would fail to find a teaching, suggestion or any incentive to provide the stiffening net of the applicants invention, and

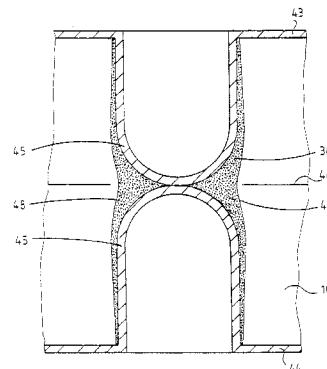


Fig. 5

clearly, there is nothing which would predictably lead one to the results of the applicants invention, requiring nozzles movable relative to a filter as well as to each other for forming in place a lattice of hardenable liquid lines that when hardened form a stiffening net provided on an inner side and/or outer side of a tubular filter element. Consequently, claim 1 and the claims depending therefrom are not rendered obvious by the combination.

Claim 5/2 was rejected as being obvious over Poulsen, Kahler, Lippold, Spencer and Adams. It is believed that the discussion above as to each cited patent are equally applicable here. Moreover, it is difficult to see how one skilled in the art could pick and choose among the five cited patents and only pick out those features which allegedly lead to obviousness while ignoring other parts. For example, Lippold uses offsets for stiffening, and touts their advantages. How or why would one skilled in the art ignore that feature, and produce a filter without such offsets?

Adams adds nothing to suggest the in-situ formation of a stiffening net. Rather, Adams as with the other references only teaches how to glue screens together:

[0009] In certain aspects the present invention provides a method and machines for making a glued-together combination of two, three or more layers of screening material. In certain aspects the thus-produced combination is suitable for use in screen assemblies used on shale shakers, with or without screen assembly lower support structure or apparatus for the screening material layer(s).

However one may apply an adhesive between parts to be bonded has little relevance to providing a stiffened tubular filter element which incorporates a stiffening net as a specific in-situ formed strengthening structure on an outer side or an inner side thereof. Adhesives bond things together, just as in Adams, the glue bonds screens together. The glue itself is not a screen, nor is it suggested that the glue does more than hold the multiple screens together, the glue disposed between the parts to be joined as in the other prior art cited. On the other hand, the applicants invention forms a stiffening

net on an outer or inner surface of the tubular filter element....the net does not bond any adjacent structures together and cannot function as an adhesive. Where does one find it predictable that one could successfully form such a stiffening structure in-situ?

Nowhere in the cited reference; only in the applicants disclosure, using impermissible hindsight.

None of the references teach, suggest, imply or predictably lead one to the invention of claim 5/2 and claim 5/2 is patentable over the cited art.

Based on the above amendments and remarks, reconsideration and allowance of the application are respectfully requested. However, should the examiner believe that direct contact with the applicant's attorney is necessary to advance the prosecution of the application, the examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

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